

This issue will address residential indoor air quality, Building Energy Efficiency Standards documents, approved HERS providers, public domain compliance software, and the new television efficiency regulations.

CALIFORNIA ENERGY COMMISSION

BLUEPRINT

EFFICIENCY AND RENEWABLE ENERGY DIVISION

ASHRAE 62.2 Residential Indoor Air Quality under the 2008 Building Energy Efficiency Standards

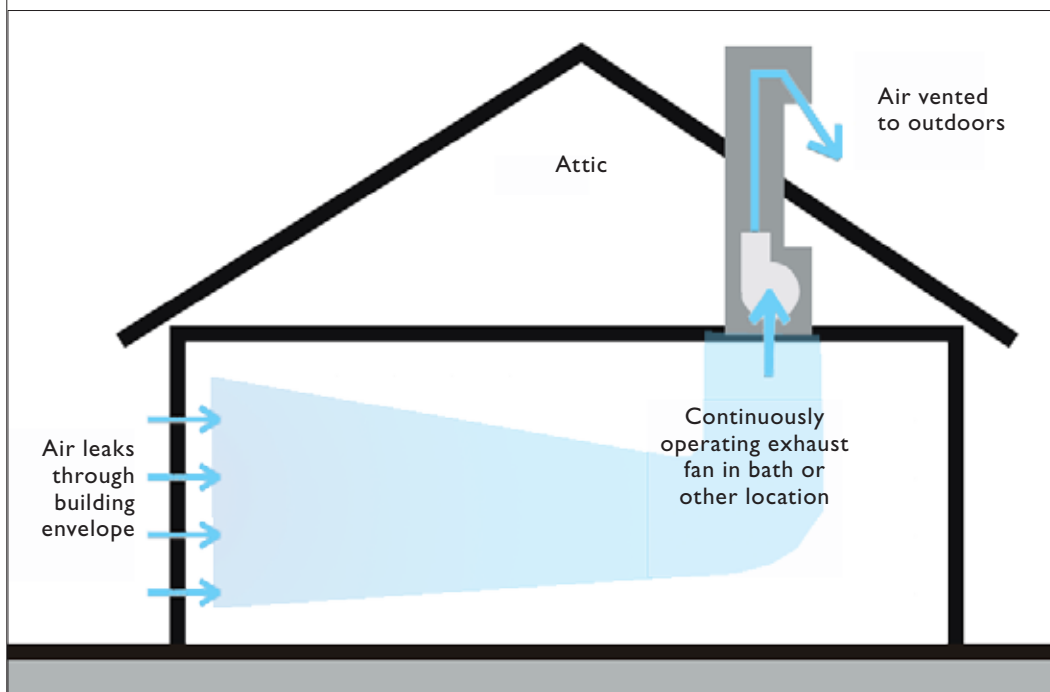
Background

The ASHRAE 62.2 Ventilation Standard for Residential Low-Rise Buildings (ASHRAE Standard) and various ways to meet this standard are described in detail in the 2008 Residential Compliance Manual. Since their initial adoption in 1978, the Building Energy Efficiency Standards (Standards) have dealt predominantly with energy efficiency issues and strategies. The 2008 Standards deal

with health and safety as well as energy efficiency. Contaminants from building materials, cleaners, finishes, and furniture, and the mitigation of mold growth, require a minimum level of fresh outside air to maintain a healthy indoor environment. The thermal performance of building envelopes has improved over the years, which has decreased air infiltration, and Energy Commission-sponsored research has revealed that many occupants do not open windows regularly for ventilation. As a result, the 2008 Standards include mandatory mechanical ventilation strategies intended to improve air quality in houses, apartments, and other residential buildings.

Requirements

The ASHRAE Standard requires a minimum level of ventilation in two areas: (1) whole-building continuous ventilation and (2) local kitchen and bathroom exhaust ventilation. There are a variety of ways to meet these requirements. The simplest and most straightforward is to provide an exhaust fan in each kitchen and bathroom, with one of the fans designated for continuous whole-building operation. There are additional requirements regarding the following:



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- Transfer air from outdoors, not from adjacent dwelling units, garages, or crawlspaces;
- Instructions and labeling to communicate how the ventilation system is designed, proper system operation and maintenance, the expected system performance, and air filter requirements;
- Clothes dryer ventilation to the outdoors;
- Fan operation for combustion and solid fuel-burning appliances;
- Special requirements for garages; and
- Ventilation openings, air filtration, and air inlets.

These additional requirements are applied on a project-by-project basis when applicable. There are also new requirements for including a minimum of information on the dwelling plans in order to obtain a building permit, and there is a new installation certificate to demonstrate compliance with the ASHRAE Standard prior to occupancy (CF-6R-MECH-05, found in Appendix A of the Residential Compliance Manual).

ASHRAE Ventilation Standard Minimum Best Practice Guide

The ASHRAE Ventilation Standard Minimum Best Practice Guide, currently in progress, contains the requirements for showing compliance with an exhaust-only ventilation approach, including:

- The calculation of minimum whole-building continuous ventilation airflow,
- Minimum requirements for exhaust fan selection and control,
- Minimum fan ratings for intermittent bathroom and kitchen fans, and
- The exhaust duct design requirements found in ASHRAE Table 7.1.

The Guide also contains reference appendices that include:

- The whole-building minimum airflow equation,
- Fan selection and duct design requirements,
- Sample note blocks to be placed on the building plans,
- An ASHRAE information form, and
- A short but comprehensive checklist of exhaust-only ventilation system requirements.

When the Guide is available on the Energy Commission website, an email will be sent to the Blueprint and Title 24 mailing lists. To consider alternatives to an exhaust-only approach, refer to Section 4.6 of the Residential Compliance Manual or contact the Energy Standards Hotline at (800) 772-3300 (toll-free in California), (916) 654-5106, or title24@energy.state.ca.us.

Public Domain Compliance Software for the 2008 Building Energy Efficiency Standards

Compliance with the 2008 Building Energy Efficiency Standards (Standards) is primarily demonstrated through the performance approach by using compliance software to show that each proposed building meets the energy budget established for that building. CALRES 2008 is the public domain program for demonstrating Standards compliance for low-rise residential buildings, and PERFORM 2008 is the public domain program for demonstrating Standards compliance for newly constructed nonresidential buildings, high-rise residential buildings, and hotels and motels.

Each program is available on a CD-ROM disk and comes with a User's Guide as a PDF file on the disk. CALRES 2008 costs \$125 and PERFORM 2008 costs \$250. The purchase price includes automatic updates to the programs. To purchase either program, send your request with a check or money order made out to the California Energy Commission to:

California Energy Commission
Re: CALRES 2008
(or PERFORM 2008)

Rob Hudler, MS-37
1516 Ninth Street
Sacramento, CA 95814-5504

The Energy Commission does not provide technical support for either program. Support for CALRES 2008 is available for \$250 per year from Enercomp, Inc., and support for PERFORM 2008 is available for \$250 per year from EnergySoft, LLC. For questions regarding the capabilities of either program, call Rob Hudler at (916) 654-4072.

CHEERS and CalCerts Approved as HERS Providers

On November 18, 2009, the California Energy Commission approved California Home Energy Efficiency Rating Services (CHEERS) and California Certified Energy Rating and Testing Services (CalCerts) as Home Energy Rating System (HERS) Providers for HERS raters conducting field verification and diagnostic testing to demonstrate compliance with the 2008 Building Energy Efficiency Standards. The Providers can now certify raters to perform field verification and diagnostic testing on projects permitted on or after January 1, 2010. Energy Commission staff determined that these two Providers met the requirements for certification after conducting a thorough review of each of their applications for certification, which included information on their training materials, quality assurance programs, and data registries.

Energy Commission Approves Appliance Efficiency Regulations for Televisions

On November 18, the California Energy Commission adopted energy efficiency regulations for new televisions offered for sale in California. Tier 1 of the regulations will take effect January 1, 2011, and will reduce television energy consumption by an average of 33 percent. Tier 2 of the regulations will take effect in 2013 and, in conjunction with Tier 1, will reduce television energy consumption by an average of 49 percent. As of late September 2009, more than 1,000 TV models available for sale met the Tier 1 regulations.

2008 Building Energy Efficiency Standards Documents

Electronic versions of the 2008 Building Energy Efficiency Standards, Residential and Nonresidential Compliance Manuals, and Reference Appendices are available on the California Energy Commission website at

<http://www.energy.ca.gov/title24/2008standards/>.

Publication numbers and costs for hard copies of the documents are as follows:*

Title	Publication Number	Cost
2008 Building Energy Efficiency Standards for Residential and Nonresidential Buildings	400-2008-001-CMF	1st copy free; additional copies \$10 each.
2008 Residential Compliance Manual	400-2008-016-CMF-Rev I	\$35
2008 Nonresidential Compliance Manual	400-2008-017CMF-Rev I	\$40
2008 Reference Appendices	400-2008-004-CMF	Free with the purchase of a manual.

*Building department staff, please contact the Energy Standards Hotline prior to ordering publications.

For hard copies, please submit a request in writing, along with payment and publication number, to:

**California Energy Commission
Attention: Publications Office
1516 9th Street
Sacramento, CA 95814**

The direct line to the Publications Office is (916) 654-5200.

Questions related to the Standards should be directed to the Energy Standards Hotline at (800) 772-3300 (toll-free in California) or (916) 654-5106, or title24@energy.state.ca.us.



Building Energy Efficiency Standards Training

Links for training on issues relating to California Building Energy Efficiency Standards for Low-Rise Residential and Nonresidential/High-Rise Residential Buildings (Title 24, Part 6) are available on the Energy Commission's website at:

www.energy.ca.gov/title24/training

The Energy Commission's Energy Code Online Training:

www.energyvideos.com/

Other Energy Standards Training

For training offered by the utilities and other organizations please see the following websites:

PG&E

www.pge.com/mybusiness/edusafety/training/pec/classes/

SoCal Gas Company

<http://seminars.socalgas.com>

San Diego Gas and Electric

<http://seminars.sdge.com/int/default.asp>

SCE

www.sce.com/RebatesandSavings/EnergyCenters/workshops.htm

SMUD

www.smud.org/education/index.html

CALBO Training Institute

www.calbo.org

CABEC

www.cabec.org



Flex Your Power Newswire

www.fypower.org/news/enewswire.html



www.gosolarcalifornia.org/

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Chief Deputy Director

Building Standards Implementation Office

1516 Ninth Street, MS-26
Sacramento, CA
95814-5512
(916) 654-4064

BLUEPRINT

Vanessa Byrd
Supervisor
Outreach and Education Unit

Beverly Duffy
Editor/Designer

Erik Jensen
Writer

Special Thanks to:

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Need Help?
Energy Standards Hotline
(800) 772-3300
or (916) 654-5106

The effective date for the
2008 Building Energy
Efficiency Standards
(Title24, Parts 1 and 6)
is **January 1, 2010.**